Your coast, your future
NYSCoasts

DEPARTMENT OF STATE

George E. Pataki
Governor
Alexander F. Treadwell
Secretary of State

Division of
Coastal Resources
41 State Street
Albany, NY 12231-0001

September 18, 2000

Mr. John Dodi, Engineering Manager
United States Gypsum Company
70 East Main Street, P.O. Box 711
Stony Point, New York 10980

Re: F-2000-0284
U.S. Army Corps of Engineers/New York District
United States Gypsum Company - Maintenance Dredging
Town of Stony Point, Rockland County
DEC #3-3928-00030/00037

Dear Mr. Dodi:

The Department of State has completed its evaluation of your Federal Consistency Assessment Form and certification that the above proposed permit activity complies with New York State's approved Coastal Management Program, and will be conducted in a manner consistent with this program.

Pursuant to 15 CFR Section 930.63, and based upon the project information submitted, the Department of State concurs with your consistency certification subject to the following agreed upon condition:

> In order to protect the resources of the State-designated Haverstraw Bay Significant Coastal Fish and Wildife Habitat, dredging of the U.S. Gypsum Company approach channel and berthing area shall only occur during the period from September 15 through November 15 in any year.

This concurrence is without prejudice to, and does not obviate the need to obtain all other applicable licenses, permits, and approvals required under existing State statutes.

A copy of this decision has been sent to the Corps of Engineers.

Sincerely,

William L. Barton for
George R. Stafford
Director

GRS/vab
cc: COE/NY District - George Nieves
NYS DEC/Region III - Michael Merriman
Town of Stony Point - Steven Hurley
U.S. Gypsum - Jerry Perioli

CONSISTENCY DECISION RECORD

Project No. F-2000-0284

Applicant: United States Gypsum Company
70 East Main Street
Stony Pont, New York 10980-0711

Project Description

The applicant proposes to maintenance dredge approximately 60, 000 cubic yards of material from the U.S. Gypsum Company approach channel and berthing area. The material would be transported by barge to the Historic Areas Remediation Site (HARS) for disposal.

Project Purpose

The stated purpose of the proposed project is to remove accumulated material which is restricting vessel movement and limiting the availability of raw material.

Applicable Policies: Town of Stony Point LWRP #2, #7, #15, #24, #35

Consistency Evaluation

Stony Point LWRP #2.) **Facilitate the Siting of Water-dependent Uses and Facilities on, or Adjacent to, Coastal Waters.**

The United States Gypsum Company has applied for a permit from the Corps of Engineers for a permit to conduct regular maintenance dredging at its Hudson River facility. The industrial site is a long-established commercial facility which manufactures cement and is recognized in the Town's LWRP as circumscribed by the LWRP's Water-related Industrial area. The proposed dredging would restore previously authorized water depths to the facilities approach channel and berthing area and would allow continued delivery of raw material for the manufacture of cementitious product by barge and the subsequent water-borne delivery of final product from the plant.

Stony Point LWRP #7.) **Significant Coastal Fish and Wildlife Habitats will be Protected, Preserved, and where Practical, Restored so as to Maintain their Viability as Habitats.**

The U.S. Gypsum approach channel is located within the Haverstraw Bay Significant Coastal Fish and Wildlife Habitat. The most sensitive areas of the habitat are documented to be in the eastern portion of the bay. Timing and dredging management methods would be employed in order to limit the resuspension and dispersal of sediments, as required by the Town's LWRP, State and federal standards for water quality protection. The resources which utilize the habitat, particularly bay anchovy, Atlantic menhaden, and blue claw crab may be most sensitive to water quality disturbances during the period from April through August in any year. Shortnosed sturgeon are also suspected of using the area for nursery. Most resources using the habitat occupy shallower areas where light penetration of the brackish water provide ample food source and sheltering areas.

These locations generally lie outside the channel area. Use of the channel itself by species of concern is not well documented. The applicants have proposed the use of a closed clamshell ("environmental") bucket in order to reduce, or eliminate sediment resuspension and dispersal, as indicated above. Barge overflow would be limited and the material has been found to be suitable for placement at the HARS.

Stony Point LWRP #15.) **Mining, Excavation, or Dredging in Coastal Waters shall not Significantly Interfere with the Natural Coastal Processes which Supply Beach Materials to Land Adjacent to such Waters and shall be Undertaken in a Manner which will not Cause an Increase in Erosion of such Land.**

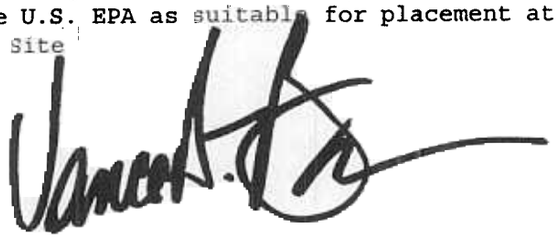
The proposed removal of accumulated sediment would not interfere with the transport of material to adjacent beaches. Being situated off-shore, removal of material from the channel to be dredged would not contribute to erosion at adjacent lands not protected by erosion-protection structures. As described above, the placement of material would occur at the Historic Areas Remediation Site.

Stony Point LWRP #24 **Prevent Impairment of Scenic Resources of Statewide Significance.**

The U.S. Gypsum plant is located in the Hudson Highlands Scenic Area of Statewide Significance. Due to the nature of the proposed activity, temporal incongruities which may result from the presence of work platforms, dredges, and/or barges are likely to be very short-lived. The dredging operations would result in the restoration of previously authorized water depths that would not compromise the overall visual quality of the SASS. No material would be stored on the upland. The U.S. Gypsum plant, as an water-related industrial land use identified in the Town of Stony Point's Local Waterfront Revitalization Program, comprises a working waterfront component of the SASS. No change in operation or configuration of the plant is anticipated, or planned, in conjunction with the proposed dredging.

Stony Point LWRP #35.) **Dredging and Dredge Spoil Disposal in Coastal Waters will be Undertaken in a Manner that Meets Existing State Dredging Permit Requirements, and Protects Significant Fish and Wildlife Habitats, Scenic Resources, Natural Protective Features, Important Agricultural Lands, and Wetlands.**

The U.S. Gypsum Company has applied for permits to conduct the proposed maintenance dredging and disposal. A NYS DEC permit has been issued for the proposed activity (#3-3928-00030/00037). The material to be removed has been found by the U.S. EPA as suitable for placement at the off-shore Historic Areas Remediation Site

Reviewer  Date: 9/8/22

Vance A Barr

FCAF received	03/17/00	
RFI issued	03/28/00	
NYS DEC permit issued	06/01/00	(#3-3928-00030/00037)
Acknowledgment	06/21/00	
DOS PN issued	08/16/00	
DOS PN expired	08/31/00	no comments

New York State Department
Division of Environmental Permit
625 Broadway, Albany, New York 12233-
Phone: (518) 402-9167 • FAX: (518) 402
Website: www.dec.state.ny.us

Erin M. Crotty
Commissioner

May 7, 2001

Mr. Richard E. Hall, Jr.
MPL Acting Facility Project Manager
Columbia Gas Transmission Corp.
2150 NYS Rt. 12
Binghamton, N.Y. 13901

Re: Millennium Pipeline Project

Dear Mr. Hall:

Thank you for providing the Impact Assessment and Mitigation Plan for Blasting on the Millennium Pipeline Haverstraw Bay Crossing, dated April 16, 2002, by Lawler, Matusky & Skelly Engineers LLP and Vibra-Tech Engineers, Inc.

Staff has reviewed the plan and while staff has no conceptual problems with the plan as proposed, they have determined that the proposal will require Millennium to file an application to modify its 401 Water Quality Certification (WQC). The Department's review of such an application will provide an opportunity to assure that all New York State water quality standards are met for the Hudson River crossing.

It is our understanding that Millennium will request such modification after the final pipeline route has been approved by the Federal Energy Regulatory Commission (FERC). We have informal word that a revised right of way through Mount Vernon has been agreed to and await formal confirmation of that event. As we have previously indicated, additional modifications will be necessary for Millennium's 401 WQC for all changed water body crossing locations as well as any new water body crossings for the route certified by FERC.

If you have any questions concerning this matter please contact me at (518) 402-9176.

Sincerely,

Richard Benas
Project Manager,
Division of Environmental Permits

CC: William Little

MILLENNIUM
PIPELINE

January 10, 2002

Richard Benas
Project Manager
NY State Dept. of Environmental Conservation
Division of Environmental Permits
625 Broadway
Albany, New York 12233-1750

Re: Millennium Pipeline Project

Dear Mr. Benas:

On December 19, 2001, the Federal Energy Regulatory Commission (FERC) issued an order which authorizes the construction and operation of the Millennium Pipeline Project, subject to compliance with a number of environmental conditions. Millennium would in particular draw your attention to page 53 of the FERC's order, where the FERC determined that Millennium's notification to the U.S. Army Corps of Engineers of a potential need to blast along the easternmost 400 feet of the proposed Hudson River crossing was "new information" that required Millennium "to re-enter into consultation with . . . the NYSDEC...". As directed by the FERC, Millennium is therefore requesting the NYSDEC to reinitiate consultation under Section 401 of the Clean Water Act.

Millennium would note that it does not necessarily agree with the FERC's characterization of the possible need for blasting in the Hudson River as "new information". As Millennium explained in the enclosed December 17, 2001 letter to the FERC, Millennium informed the FERC as long ago as April 1998 that the crossing of the Hudson River would potentially require blasting, and that information was also provided to the NYSDEC, the Corps of Engineers, and other responsible federal and state agencies. Nevertheless, we recognize that Millennium has supplied a voluminous amount of information about the Hudson River crossing and that the possibility of blasting in the river may not have been sufficiently brought to the attention of one or more of the regulatory and resource agencies. Regardless, the enclosed analysis demonstrates that any removal of rock from the riverbed will be required for a distance of no more than 200 feet and, whether accomplished through mechanical means or blasting, will have only limited, short-term effects on fisheries and habitat in Haverstraw Bay.

As always, we remain available to meet with you to discuss these or any other issues. have enclosed extra copies for distribution to Jack Cooper and Bruce Garabedian.

Very truly yours,

Richard E. Hall, Jr.
MPL Acting Facility Project Manager

COLUMBIA GAS TRANSMISSION CORPORATION
2150 NYS Rt. 12, Binghamton, New York 13901
Telephone: (607) 648-1100 Fax: (607) 648-1205
Internet Address: www.millenniumpipeline.com E-mail: moreinfo@millenniumpipeline.com

MILLENNIUM PIPELINE PROJECT

Responses to December 11, 2001 U.S. Army Corps of Engineers Data Requests

INTRODUCTION

The U.S. Army Corps of Engineers' (COE) December 11, 2001 letter requests additional information regarding the potential need for blasting in the eastern-most 400 feet of the proposed Hudson River crossing. As set forth below, only very limited blasting may be required and, if required, the blasting can be conducted in a manner that avoids adverse impacts to the environment.

NEED FOR BLASTING

Any blasting in the Hudson River would be of limited scope. Less than 200 feet of the footprint of the pipeline trench at its eastern end adjacent to the shoreline – or less than 2% of the overall Hudson River crossing – contains some rock below the existing sediments which may be resistant to removal with conventional excavating equipment. A plan and profile of the pipeline trench in this area are shown on the attached drawings. As indicated on the drawings, Millennium anticipates that a maximum of only 260 cubic yards of rock (or only 20% of the trench volume through this area) will be removed during trench excavation. Trenching in this area will commence with removal of sediment and then removal of rock with non-blasting techniques. Any remaining rock will be removed through blasting to the depth required by the COE and US Department of Transportation for pipeline placement.

ALTERNATIVES TO BLASTING

Trenching in this area will commence with removal of sediment and rock with non-blasting techniques. Once the overlying soft sediment is removed, the integrity of the rock will be evaluated to determine if mechanical means will be sufficient to remove it. If the rock integrity is such that it can be removed with mechanical techniques, the environmental bucket or another bucket more efficient at rock removal will be used. However, if mechanical techniques will not be totally effective, the fracturing of some rock with blasting techniques will be required to facilitate rock removal to the desired trench depth.

GEOTECHNICAL BORE LOGS

The locations of the geotechnical borings are shown on the attached drawing 8525-CAD-5534 and 8525-CAD-5535. The bore log showing rock is also attached. The presence of rock is further confirmed by the rock outcroppings immediately adjacent to the eastern shore of the crossing location.

ROCK REMOVAL SCHEDULE

Any blasting that may be required will be completed within the previously established construction window of September 1st through November 15th. Adhering to this schedule will minimize any potentially adverse effects from blasting by conducting any blasting during the time period that the resource agencies have agreed will be least impacted by construction activities in Haverstraw Bay.

PROPOSED BLASTING PLAN

Millennium anticipates that any blasting in the Hudson River will be of limited scope. Borings across the entire proposed crossing route confirm that rock removal will only be required for less than 200 feet of the near shore area adjacent to the eastern bank of the Hudson River. If blasting is required at all, a single blast design consisting of multiple holes delayed milliseconds apart will be utilized. Multiple holes, millisecond delays, and the other mitigation measures proposed below will minimize pressure effects on the marine environment. The amount of explosive used per delay interval will be designed to employ the minimum charge size needed to merely fracture the rock, charge intervals will be selected that minimize the shock wave, and the boreholes for the charges will be stemmed (i.e., backfilled with angular gravel or other suitable material); thus producing relatively low pressure levels. After the rock is fractured, it will be excavated from the trench with the dredging equipment previously proposed for the crossing or as is discussed above. The excavated material will be stored separately in a barge in a similar manner to what is proposed for the soft sediment along the entire river crossing. The boreholes will be drilled with equipment mounted on a small barge which will be positioned over the trench using the same techniques previously described for other dredging equipment. As required in the Section 401 Water Quality Certificate (401 Certificate), the boreholes for the charges will be stemmed to reduce the amplitude of the pressure wave. Prior to trenching in this area, a blasting plan will be prepared and submitted by the selected contractor for review and any necessary agency approval. The blasting plan will contain the full details of the drilling and blasting pattern the contractor proposes to use during the blast. The blasting plan will include the following:

- A plan and section view of proposed drill pattern, including blast hole spacing, blast hole diameter, blast hole angle, lift height, and subdrill depth.
- Loading diagrams showing type and amount of explosives, primers, and initiators, and location, type, and depth of stemming.
- A sketch of initiation sequence of blast holes, including delay times and delay system.
- Manufacturers' data sheets for all explosives, primers, and initiators to be used.

This blasting plan will also contain agreed upon provisions to minimize the effects of blasting on aquatic life. This plan would incorporate existing conditions for blasting in the 401 Certificate, the FERC Certificate, any other requirements from the COE and the other resource agencies with jurisdiction over the proposed Hudson River crossing, as well as site-specific measures designed to minimize adverse effects as further discussed below.

WATER QUALITY IMPACT ASSESSMENT

The shallow water (less than 10 feet) near the shoreline and the presence of rock in the substrate will reduce the turbidity generated during trench excavation for this pipeline segment compared to deeper segments that are entirely fine sediment. The charges and stemmed boreholes will be designed to fracture the rock rather than result in an uncontrolled, dispersed explosion which could increase turbidity levels in the vicinity. Further, because the rock will allow for steeper trench walls, the volume of spoil and overall trench width will be significantly reduced (at least 50%) in this area compared to other locations on the crossing (reference attached drawing), further reducing turbidity.

FISH AND WILDLIFE IMPACT ASSESSMENT

A comprehensive review of underwater blasting by Keevin and Hempen (1997) brings together the recent information on effects on aquatic life and provides a review of methods to mitigate impacts. It also provides a framework for planning underwater blasting to minimize adverse effects.

Blasting effects on aquatic life in Haverstraw Bay will be limited to some species of fish because invertebrates are generally insensitive to underwater explosions. Other forms of aquatic life (sea turtles and marine mammals) do not occur in the project area. Further, removal of sediment from the rock surface will remove the invertebrates from the immediate area. Terrestrial wildlife and waterfowl would not be susceptible to blasting effects because general activity at the work site would keep them away.

Excessive pressure on the swim bladder, a gas filled organ in many fishes, is the primary cause of injury in fish exposed to underwater explosions. Fishes without gas bladders, such as hogchokers, an abundant flatfish in the Hudson Estuary, are extremely tolerant of underwater explosions. Keevin and Hempen cite two studies (Wiley et. al. 1981 and Gortner et. al. 1994) which showed hogchokers were not injured even though they were very close to detonations; in one case there was no mortality for hogchokers beyond 1 meter from the detonation of a substantial charge.

Shortnose sturgeon may potentially be present in Haverstraw Bay during the September 1 to November 15 work window. However, few if any sturgeon would be in the blasting area because shortnose sturgeon do not concentrate in Haverstraw Bay for overwintering until after November 15th. Various other factors would also minimize the probability that shortnose sturgeon would be affected by blasting.

Blasting, if needed, would be limited to shallow water (less than 10 feet deep) which is habitat not commonly used by shortnose sturgeon in the Hudson Estuary, particularly large, mature individuals. Shortnose sturgeon are bottom feeders, and thus the pre-blast sediment removal would make the area unattractive to sturgeon. General activity in the area (drilling and backfilling of boreholes) would create continuous activity in the water just prior to a blast, which would also tend to repel fish from the area.

FERC's EFH assessment of the Hudson River crossing identified seven managed species: red hake, winter flounder, windowpane flounder, bluefish, Atlantic butterfish, fluke, and Atlantic Herring, as potentially having essential habitat in Haverstraw Bay.

Review of the distribution and salinity requirements of these species, as well as fish sampling results from Haverstraw Bay, showed that these species are not abundant in the northern end of the Bay. This is to be expected because these species are primarily marine and are at the edge of their distribution in Haverstraw Bay. Life stages of some of these species could be present in the general area of the pipeline, but because of their overall low abundance in Haverstraw Bay the potential for adverse effects from blasting on these species is minimal.

The potential adverse effects of blasting in Haverstraw Bay on fish are limited by the relatively small, shallow area involved in the work and the temporary nature of the disturbance created by pipeline installation. The initial disturbance of the area to remove overlying sediment would reduce the attractiveness of the area for fishes due to a temporary lack of food resources. In addition, general activity at the work site will also tend to keep fishes away from the area. A combination of site-specific actions and the standard industry practices described above will minimize, if not eliminate, adverse effects on aquatic life. In addition, an air bubble curtain will be employed to reduce peak pressure, impulse, and energy flux density from any blasting that is required. Bubble curtains have been found to be an extremely effective mitigation technique. Keevin and Hempen (1997). The bubble curtain should also keep fish from reoccupying the blast area proximate to the blast. The following mitigation measures will be applied to any required blasting work:

Blasting for the entire 200-foot area will be accomplished with one multi-hole blast, if possible.

The water is shallow in the work area, including an intertidal zone. Blasting will be conducted around the low tide to help minimize the numbers of fishes in the work area at the time of detonation.

The pipeline work will be conducted during late summer and fall (specifically September1st through November 15th) when there would be few, if any, fish eggs and larvae.

In accordance with the 401 Water Quality Certificate, the work area will be surveyed by hydroacoustic equipment to locate significant concentrations of fish just before detonation. If concentrations are found, the detonation will be delayed until they leave the area.

Noise generators to temporarily scare fish from the area could be used if necessary to disperse schools of fish.

An air bubble curtain will be employed to attenuate the pressure wave.

After placement of the pipeline, the trench in this area will be backfilled, first with the excavated rock (which will be broken up from the blasting and excavation process) and then with sediment to the approximate original depth contours. This process will re-establish a soft substrate similar to other portions of the pipeline crossing. Natural tidal action will rapidly create a substrate surface similar to original conditions and aquatic life from adjacent areas will recolonize the disturbed area quickly. Thus, no permanent effect on the habitat will occur.

SUMMARY

If any blasting is required, a single, minimized blast with multiple charges and millisecond delays will permit rock fracturing to facilitate mechanical removal with limited impacts. In light of the multiple mitigation measures required in the FERC Certificate and the 401 Certificate, the above-described additional mitigation measures, and the standard industry practices used for underwater blasting, it is clear that the rock removal, either through mechanical means or the use of explosives, will have only limited, short term effects on the fisheries and habitat in Haverstraw Bay.

File Millennium

SIDLEY AUSTIN BROWN & WOOD

A PARTNERSHIP INCLUDING PROFESSIONAL CORPORATIONS

CHICAGO
DALLAS
LOS ANGELES
NEW YORK
SAN FRANCISCO
SEATTLE

1501 K STREET, N.W.
WASHINGTON, D.C. 20005
TELEPHONE 202 736 8000
FACSIMILE 202 736 8711
www.sidley.com
FOUNDED 1866

BEIJING
HONG KONG
LONDON
SHANGHAI
SINGAPORE
TOKYO

WRITER'S DIRECT NUMBER
(202) 736-8282

WRITER'S E-MAIL ADDRESS
fberner@sidley.com

December 17, 2001

The Honorable Patrick H. Wood, III
The Honorable Linda K. Breathitt
The Honorable Nora Mead Brownell
The Honorable William L. Massey
Federal Energy Regulatory Commission
888 First Street, NE
Washington, DC 20426

Re: Millennium Pipeline Company, L.P.,
Docket Nos. CP98-150-000, et al.

Dear Chairman Wood and Commissioners
Breathitt, Brownell, and Massey:

In a letter dated December 13, 2001, an attorney for the Village of Croton-on-Hudson, New York (the "Village") has requested the Commission "to postpone all further action on Millennium's application" because, inter alia, "Millennium just recently disclosed to the U.S. Army Corps of Engineers for the first time — but apparently not to the Commission — that the proposed Hudson River crossing will require Millennium to conduct blasting of the riverbed within Haverstraw Bay." On behalf of Millennium, we offer this brief response.

Contrary to the Village's accusations, Millennium informed the Commission and its Staff at the very beginning of this proceeding that blasting in the Hudson River would be required. In its response to the Staff's March 16, 1998 Data Request No. 11, filed by Millennium on April 16, 1998, Millennium specifically identified the Hudson River as one of the waterbodies within possible blasting areas. See Table DR-011, at 2. This information was also provided by Millennium to other responsible federal and state agencies, including the Corps of Engineers and the New York Department of Environmental Conservation ("DEC"). Only 400 feet of the 12,000 foot crossing of the Hudson River will potentially require blasting, which would be undertaken in accordance with the requirements of the Final Environmental Impact Statement ("FEIS") and the DEC's Water Quality Certificate, which requires sonar and other measures to ensure that there are no adverse effects on aquatic resources in the river.

In short, the potential for limited blasting in the Hudson River has been fully disclosed by Millennium and has been adequately addressed in the FEIS and the DEC water quality certificate. The Village's request for postponement of Commission action pending consideration of that issue is thus without merit.

Very truly yours,

Frederic G. Berner, Jr.

Attorney for Millennium
Pipeline Company, L.P.

cc: All Parties
J. Mark Robinson
Richard R. Hoffmann
Jennifer L. Kerrigan

MILLENNIUM PIPELINE PROJECT

Responses to December 11, 2001 U.S. Army Corps of Engineers Data Requests

INTRODUCTION

The U.S. Army Corps of Engineers' (COE) December 11, 2001 letter requests additional information regarding the potential need for blasting in the eastern-most 400 feet of the proposed Hudson River crossing. As set forth below, only very limited blasting may be required and, if required, the blasting can be conducted in a manner that avoids adverse impacts to the environment.

NEED FOR BLASTING

Any blasting in the Hudson River would be of limited scope. Less than 200 feet of the footprint of the pipeline trench at its eastern end adjacent to the shoreline – or less than 2% of the overall Hudson River crossing – contains some rock below the existing sediments which may be resistant to removal with conventional excavating equipment. A plan and profile of the pipeline trench in this area are shown on the attached drawings. As indicated on the drawings, Millennium anticipates that a maximum of only 260 cubic yards of rock (or only 20% of the trench volume through this area) will be removed during trench excavation. Trenching in this area will commence with removal of sediment and then removal of rock with non-blasting techniques. Any remaining rock will be removed through blasting to the depth required by the COE and US Department of Transportation for pipeline placement.

ALTERNATIVES TO BLASTING

Trenching in this area will commence with removal of sediment and rock with non-blasting techniques. Once the overlying soft sediment is removed, the integrity of the rock will be evaluated to determine if mechanical means will be sufficient to remove it. If the rock integrity is such that it can be removed with mechanical techniques, the environmental bucket or another bucket more efficient at rock removal will be used. However, if mechanical techniques will not be totally effective, the fracturing of some rock with blasting techniques will be required to facilitate rock removal to the desired trench depth.

GEOTECHNICAL BORE LOGS

The locations of the geotechnical borings are shown on the attached drawing 8525-CAD-5534 and 8525-CAD-5535. The bore log showing rock is also attached. The presence of rock is further confirmed by the rock outcroppings immediately adjacent to the eastern shore of the crossing location.

ROCK REMOVAL SCHEDULE

Any blasting that may be required will be completed within the previously established construction window of September 1st through November 15th. Adhering to this schedule will minimize any potentially adverse effects from blasting by conducting any blasting during the time period that the resource agencies have agreed will be least impacted by construction activities in Haverstraw Bay.

PROPOSED BLASTING PLAN

Millennium anticipates that any blasting in the Hudson River will be of limited scope. Borings across the entire proposed crossing route confirm that rock removal will only be required for less than 200 feet of the near shore area adjacent to the eastern bank of the Hudson River. If blasting is required at all, a single blast design consisting of multiple holes delayed milliseconds apart will be utilized. Multiple holes, millisecond delays, and the other mitigation measures proposed below will minimize pressure effects on the marine environment. The amount of explosive used per delay interval will be designed to employ the minimum charge size needed to merely fracture the rock, charge intervals will be selected that minimize the shock wave, and the boreholes for the charges will be stemmed (i.e., backfilled with angular gravel or other suitable material), thus producing relatively low pressure levels. After the rock is fractured, it will be excavated from the trench with the dredging equipment previously proposed for the crossing or as is discussed above. The excavated material will be stored separately in a barge in a similar manner to what is proposed for the soft sediment along the entire river crossing. The boreholes will be drilled with equipment mounted on a small barge which will be positioned over the trench using the same techniques previously described for other dredging equipment. As required in the Section 401 Water Quality Certificate (401 Certificate), the boreholes for the charges will be stemmed to reduce the amplitude of the pressure wave. Prior to trenching in this area, a blasting plan will be prepared and submitted by the selected contractor for review and any necessary agency approval. The blasting plan will contain the full details of the drilling and blasting pattern the contractor proposes to use during the blast. The blasting plan will include the following:

- A plan and section view of proposed drill pattern, including blast hole spacing, blast hole diameter, blast hole angle, lift height, and subdrill depth.
- Loading diagrams showing type and amount of explosives, primers, and initiators, and location, type, and depth of stemming.
- A sketch of initiation sequence of blast holes, including delay times and delay system.
- Manufacturers' data sheets for all explosives, primers, and initiators to be used.

This blasting plan will also contain agreed upon provisions to minimize the effects of blasting on aquatic life. This plan would incorporate existing conditions for blasting in the 401 Certificate, the FERC Certificate, any other requirements from the COE and the other resource agencies with jurisdiction over the proposed Hudson River crossing, as well as site-specific measures designed to minimize adverse effects as further discussed below.

WATER QUALITY IMPACT ASSESSMENT

The shallow water (less than 10 feet) near the shoreline and the presence of rock in the substrate will reduce the turbidity generated during trench excavation for this pipeline segment compared to deeper segments that are entirely fine sediment. The charges and stemmed boreholes will be designed to fracture the rock rather than result in an uncontrolled, dispersed explosion which could increase turbidity levels in the vicinity. Further, because the rock will allow for steeper trench walls, the volume of spoil and overall trench width will be significantly reduced (at least 50%) in this area compared to other locations on the crossing (reference attached drawing), further reducing turbidity.

FISH AND WILDLIFE IMPACT ASSESSMENT

A comprehensive review of underwater blasting by Keevin and Hempen (1997) brings together the recent information on effects on aquatic life and provides a review of methods to mitigate impacts. It also provides a framework for planning underwater blasting to minimize adverse effects.

Blasting effects on aquatic life in Haverstraw Bay will be limited to some species of fish because invertebrates are generally insensitive to underwater explosions. Other forms of aquatic life (sea turtles and marine mammals) do not occur in the project area. Further, removal of sediment from the rock surface will remove the invertebrates from the immediate area. Terrestrial wildlife and waterfowl would not be susceptible to blasting effects because general activity at the work site would keep them away.

Excessive pressure on the swim bladder, a gas filled organ in many fishes, is the primary cause of injury in fish exposed to underwater explosions. Fishes without gas bladders, such as hogchokers, an abundant flatfish in the Hudson Estuary, are extremely tolerant of underwater explosions. Keevin and Hempen cite two studies (Wiley et. al. 1981 and Gortner et. al. 1994) which showed hogchokers were not injured even though they were very close to detonations; in one case there was no mortality for hogchokers beyond 1 meter from the detonation of a substantial charge.

Shortnose sturgeon may potentially be present in Haverstraw Bay during the September 1 to November 15 work window. However, few if any sturgeon would be in the blasting area because shortnose sturgeon do not concentrate in Haverstraw Bay for overwintering until after November 15th. Various other factors would also minimize the probability that shortnose sturgeon would be affected by blasting.

Blasting, if needed, would be limited to shallow water (less than 10 feet deep) which is habitat not commonly used by shortnose sturgeon in the Hudson Estuary, particularly large, mature individuals. Shortnose sturgeon are bottom feeders, and thus the pre-blast sediment removal would make the area unattractive to sturgeon. General activity in the area (drilling and backfilling of boreholes) would create continuous activity in the water just prior to a blast, which would also tend to repel fish from the area.

FERC's EFH assessment of the Hudson River crossing identified seven managed species: red hake, winter flounder, windowpane flounder, bluefish, Atlantic butterfish, fluke, and Atlantic Herring, as potentially having essential habitat in Haverstraw Bay.

Review of the distribution and salinity requirements of these species, as well as fish sampling results from Haverstraw Bay, showed that these species are not abundant in the northern end of the Bay. This is to be expected because these species are primarily marine and are at the edge of their distribution in Haverstraw Bay. Life stages of some of these species could be present in the general area of the pipeline, but because of their overall low abundance in Haverstraw Bay the potential for adverse effects from blasting on these species is minimal.

The potential adverse effects of blasting in Haverstraw Bay on fish are limited by the relatively small, shallow area involved in the work and the temporary nature of the disturbance created by pipeline installation. The initial disturbance of the area to remove overlying sediment would reduce the attractiveness of the area for fishes due to a temporary lack of food resources. In addition, general activity at the work site will also tend to keep fishes away from the area. A combination of site-specific actions and the standard industry practices described above will minimize, if not eliminate, adverse effects on aquatic life. In addition, an air bubble curtain will be employed to reduce peak pressure, impulse, and energy flux density from any blasting that is required. Bubble curtains have been found to be an extremely effective mitigation technique. Keevin and Hempen (1997). The bubble curtain should also keep fish from reoccupying the blast area proximate to the blast. The following mitigation measures will be applied to any required blasting work:

- Blasting for the entire 200-foot area will be accomplished with one multi-hole blast, if possible.
- The water is shallow in the work area, including an intertidal zone. Blasting will be conducted around the low tide to help minimize the numbers of fishes in the work area at the time of detonation.
- The pipeline work will be conducted during late summer and fall (specifically September1st through November 15th) when there would be few, if any, fish eggs and larvae.
- In accordance with the 401 Water Quality Certificate, the work area will be surveyed by hydroacoustic equipment to locate significant concentrations of fish just before detonation. If concentrations are found, the detonation will be delayed until they leave the area.
- Noise generators to temporarily scare fish from the area could be used if necessary to disperse schools of fish.
- An air bubble curtain will be employed to attenuate the pressure wave.

After placement of the pipeline, the trench in this area will be backfilled, first with the excavated rock (which will be broken up from the blasting and excavation process) and then with sediment to the approximate original depth contours. This process will re-establish a soft substrate similar to other portions of the pipeline crossing. Natural tidal action will rapidly create a substrate surface similar to original conditions and aquatic life from adjacent areas will recolonize the disturbed area quickly. Thus, no permanent effect on the habitat will occur.

SUMMARY

If any blasting is required, a single, minimized blast with multiple charges and millisecond delays will permit rock fracturing to facilitate mechanical removal with limited impacts. In light of the multiple mitigation measures required in the FERC Certificate and the 401 Certificate, the above-described additional mitigation measures, and the standard industry practices used for underwater blasting, it is clear that the rock removal, either through mechanical means or the use of explosives, will have only limited, short term effects on the fisheries and habitat in Haverstraw Bay.

SIDLEY AUSTIN BROWN & WOOD
A PARTNERSHIP INCLUDING PROFESSIONAL CORPORATIONS

CHICAGO
DALLAS
LOS ANGELES
NEW YORK
SAN FRANCISCO
SEATTLE

1501 K STREET, N.W.
WASHINGTON, D.C. 20005
TELEPHONE 202 736 8000
FACSIMILE 202 736 8711
www.sidley.com

FOUNDED 1866

BEIJING
HONG KONG
LONDON
SHANGHAI
SINGAPORE
TOKYO

WRITER'S DIRECT NUMBER
(202) 736-8282

WRITER'S E-MAIL ADDRESS
fberner@sidley.com

December 17, 2001

The Honorable Patrick H. Wood, III
The Honorable Linda K. Breathitt
The Honorable Nora Mead Brownell
The Honorable William L. Massey
Federal Energy Regulatory Commission
888 First Street, NE
Washington, DC 20426

Re: Millennium Pipeline Company, L.P.,
Docket Nos. CP98-150-000, et al.

Dear Chairman Wood and Commissioners
Breathitt, Brownell, and Massey:

In a letter dated December 13, 2001, an attorney for the Village of Croton-on-Hudson, New York (the "Village") has requested the Commission "to postpone all further action on Millennium's application" because, inter alia, "Millennium just recently disclosed to the U.S. Army Corps of Engineers for the first time — but apparently not to the Commission — that the proposed Hudson River crossing will require Millennium to conduct blasting of the riverbed within Haverstraw Bay." On behalf of Millennium, we offer this brief response.

Contrary to the Village's accusations, Millennium informed the Commission and its Staff at the very beginning of this proceeding that blasting in the Hudson River would be required. In its response to the Staff's March 16, 1998 Data Request No. 11, filed by Millennium on April 16, 1998, Millennium specifically identified the Hudson River as one of the waterbodies within possible blasting areas. See Table DR-011, at 2. This information was also provided by Millennium to other responsible federal and state agencies, including the Corps of Engineers and the New York Department of Environmental Conservation ("DEC"). Only 400 feet of the 12,000 foot crossing of the Hudson River will potentially require blasting, which would be undertaken in accordance with the requirements of the Final Environmental Impact Statement ("FEIS") and the DEC's Water Quality Certificate, which requires sonar and other measures to ensure that there are no adverse effects on aquatic resources in the river.

In short, the potential for limited blasting in the Hudson River has been fully disclosed by Millennium and has been adequately addressed in the FEIS and the DEC water quality certificate. The Village's request for postponement of Commission action pending consideration of that issue is thus without merit.

Very truly yours,

Frederic G. Berner, Jr.

Attorney for Millennium
Pipeline Company, L.P.

cc: All Parties
J. Mark Robinson
Richard R. Hoffmann
Jennifer L. Kerrigan

LEBOEUF, LAMB, GREENE & MACRAE
L.L.P.
A LIMITED LIABILITY PARTNERSHIP INCLUDING PROFESSIONAL CORPORATIONS

NEW YORK
WASHINGTON, D.C.
ALBANY
BOSTON
DENVER
HARRISBURG
HARTFORD
HOUSTON
JACKSONVILLE
LOS ANGELES
NEWARK
PITTSBURGH
SALT LAKE CITY
SAN FRANCISCO

ONE COMMERCE PLAZA
SUITE 2020
99 WASHINGTON AVENUE
ALBANY, NY 12210-2820
(518) 626-9000
FACSIMILE: (518) 626-9010

LONDON
(A LONDON-BASED MULTINATIONAL PARTNERSHIP)
PARIS
BRUSSELS
JOHANNESBURG
(PTY) LTD.
MOSCOW
RIYADH
(AFFILIATED OFFICE)
TASHKENT
BISHKEK
ALMATY
BEIJING

January 25, 2002

William F. Barton, Assistant Director
New York State Department of State
Division of Coastal Resources &
Waterfront Revitalization
41 State Street
Albany, New York 12231-0001

Re: Millennium Pipeline Company, L.P.
F-2001-0246 (formerly F-98-0173)

Dear Mr. Barton

The purpose of this letter is to respond to your letter of December 14, 2001, and to supply the information requested in that letter. We trust that your review of the information in this letter and the enclosed information will lead you to conclude that the potential for limited blasting in the Hudson River as part of the Hudson River crossing for the Millennium Project will not have any material impact on the habitat of Haverstraw Bay and does not otherwise affect the consistency of the Millennium Project with the New York Coastal Management Program ("CMP").

Your letter addresses the timing of Department of State ("DOS") action concerning the Millennium Project and suggests that the potential for a limited amount of blasting near the eastern shore of the Hudson River may constitute a "project change." Millennium does not believe that the possibility for blasting in this very limited area is a project change for the reasons set forth in this letter and in Millennium's letter to the Federal Energy Regulatory Commission ("FERC"), dated December 17, 2001, a copy of which is enclosed. Accordingly,

Millennium reserves all of its rights concerning the timeliness of DOS review.

Notwithstanding the foregoing, we appreciate the fact that the possibility for blasting in a very limited area of the Hudson River was not addressed in Millennium's Coastal Zone Consistency filings with the DOS and offer our sincere regrets if this information was not, in your judgment, sufficiently brought to your attention. Millennium is committed to providing the DOS with full and complete information on all aspects of the Millennium Project that are subject to review by the DOS.

As you are aware, the FERC approved the Millennium Project on December 19, 2001, subject to certain stated conditions. The FERC's order approving the Project notes that Millennium initiated consultation with the DOS in November 1998 and provided an updated application to the DOS in March 2001 but that the DOS review has not been completed. Order at 59-60. In addition, the FERC Order requires Millennium to consult with the various resource agencies, including the DOS, concerning the blasting issue. We are hopeful that the information contained in this letter and set forth in the enclosures will lead you to the conclusion that the potential for blasting in a very limited area of the Hudson River will not have any significant adverse environmental impacts and can be conducted as part of the overall Hudson River crossing plan in a manner that is consistent with the CMP.

In response to your specific request for information on the potential for blasting in the Hudson River, we are enclosing a copy of the submission made by Millennium to the U.S. Army Corps of Engineers ("COE") in response to the December 11, 2001 request for information from the COE. The December 11th COE letter is specifically referenced in your December 14th letter. The enclosed information addresses each of the seven questions put forth by the COE, as repeated in your letter.

In addition to the enclosed information, we offer the following regarding the consistency of the potential for blasting with the CMP policies:

1. The need for blasting may only arise in a very limited area and may only involve a limited amount of rock. Based upon borings of the Hudson River, it is anticipated that the dredging in the Hudson River may encounter rock in an area of shallow water that is within 200 feet of the shoreline of the Eastern shore of the proposed dredging route. The enclosed documents include a profile of the near shore area on the eastern bank of the Hudson River. The specific borings note the

potential for rock in that area, as does the rock outcrop on the shoreline. As a consequence, Millennium has planned for the contingency that blasting may be necessary. If rock is encountered, Millennium estimates that a maximum of 260 cubic yards of rock will need to be removed, which represents only 20% of the trench volume in this area.

2. As the first step in the dredging process near the eastern shoreline, Millennium will remove sediment with the same methods proposed for the rest of the Hudson River Crossing -- by using an environmental bucket and other mitigation measures to ensure that turbidity is kept to a minimum and that the conditions of the Water Quality Certificate issued by the New York Department of Environmental Conservation ("DEC"), dated December 8, 1999, are met. If rock is encountered, it is likely that the environmental bucket will remove at least some of the rock, particularly the fractured rock that is likely to exist at the interface between the rock and the overburden. At this point, a determination will be made as to whether the rock is susceptible to removal via mechanical means. If the rock integrity is such that it can be removed with mechanical techniques, the environmental bucket or a barge mounted excavator will be used to remove the rock. If a barge mounted excavator is used, it will only be used after the sediment and at least some rock has been removed with the environmental bucket. Since the excavator will be working in rock, turbidity is not expected to be a problem, which will be confirmed by the monitoring conditions of the DEC Water Quality Certificate. However, if mechanical techniques will not be totally effective, the fracturing of some rock with blasting techniques will be required to facilitate rock removal to the desired trench depth.

3. If blasting is necessary, a detailed blasting plan will be developed that will define the spacing, hole diameter, hole pattern, charge size, and stemming procedures to mitigate the pressure wave generated by the blasting. The plan will be reviewed and approved by the federal and state agencies with jurisdiction over the Hudson River crossing before blasting proceeds. The design of the blasting plan will include measures to ensure that only the minimum charge necessary to fracture the rock is used. In order to reduce the pressure wave, the blasting will be conducted as a series of blasts separated by defined millisecond delays, and every reasonable effort will be made to conduct the blasting in one episode. Since rock is anticipated only in a very limited area within 200 feet of the shoreline, conducting the blasting in a single episode is practicable.

4. Other mitigation measures will also be incorporated into the blasting plan. Prior to any blasting, a

side scan sonar survey of the area will be conducted (as is required by the DEC Water Quality Certificate) to ensure that no concentrations of fish are present in the immediate vicinity of the blast. Typically, the noise and activities associated with ongoing construction activities are sufficient to scare fish from the area. If that is not the case, as confirmed by the sonar survey, scare charges or other noise generating devices will be utilized to scare the fish away. Also, the blast area will be cordoned off with an air bubble curtain that will serve two beneficial purposes. First, the bubble curtain will serve to help keep fish out of the immediate area of the blast. Second, the bubble curtain can be very effective in attenuating the pressure wave. The comprehensive study of underwater blasting referenced in the enclosed documents (Keevin and Hempen 1997) points out that air bubble curtains can be extremely effective in mitigating any adverse impacts to fish species associated with underwater blasting when conditions are appropriate. Given the shallow water environment of the near shore area, Millennium is confident that the bubble curtain will be very effective in attenuating the pressure wave outside of the bubble curtain and, thus, avoiding adverse impacts to any fish species that may be in the nearby area. Importantly, these techniques will avoid impacts to the short-nosed sturgeon and impacts to other species that are of concern in the Haverstraw Bay portion of the Hudson River.

5. Since trenching in rock eliminates the need to have the gradual side slopes associated with soft bottom sediments, there is the very real possibility that, if rock is encountered, it will actually reduce the amount of material that must be removed by as much as 50%. Reducing the bottom area impacted by dredging is a minor benefit associated with the need for blasting, if it is required.

6. Once blasting has been completed, the fractured rock will be removed with mechanical means and stored in barges. After placement of the pipeline, the trench in this area will be backfilled with the excavated rock (which will be broken up from the blasting and excavation process). Native sediments will be placed on top of the backfill to the approximate original depth contours. The placement of the original sediments back into the trench will permit tidal action to establish a substrate suitable for recolonization by benthic invertebrates from adjacent undisturbed areas. This benthic community will provide a food resource for fishes, thus avoiding any impairment of the ecological function of the area. This area of Haverstraw Bay is expected to return to full productivity in the same time as the remainder of the crossing. See Millennium Pipeline Project Coastal Zone Consistency Determination, March

2001, pp. 35, 38 (hereinafter "March 2001 Consistency Determination ___"). Thus, any impacts to this area would be minor and short lived. It should also be pointed out that the area potentially impacted by blasting is only a very small portion of the area impacted by the entire crossing and an even smaller percentage of Haverstraw Bay and the functional habitat associated with Haverstraw Bay. Less than 1% of the overall crossing area is potentially impacted by blasting. Since the footprint of the entire area to be dredged in Haverstraw Bay is only .2% of the designated significant habitat and .08% of the functional habitat (March 2001 Consistency Determination at 33), the area potentially affected by blasting is only .002% of the designated significant habitat and .0008% of the functional habitat; i.e., a very small area.

7. Nor will the potential for blasting affect the planned construction schedule. The FERC Order notes that "[a]fter a collaborative process with appropriate Federal and state agencies, Millennium proposes to cross the Hudson River within the agreed upon window between September 1 and November 15. We will require Millennium to use the proposed construction methods and timing window to minimize construction impacts to the habitat in Haverstraw Bay." Order at 51. Because the potential for blasting is confined to such a small area and the quantity of rock potentially to be removed is so small, there will be no impact to the construction schedule. As the construction equipment approaches the eastern shore of the Hudson River, the dredging equipment will move forward to remove the sediment and any rock that is susceptible to removal by mechanical means in this very limited area. By that time, the rock on the upland portion of the shoreline will have been removed, leaving a shoreline plug in place. The removal of rock in the upland area will be a good indicator of the integrity of the rock and whether blasting will be necessary. If it appears that blasting may be necessary, a blasting plan will be developed, as discussed above, and submitted to the federal and state agencies having jurisdiction over the crossing for review and approval. Following removal of the sediment and any rock that can be removed by mechanical means, the blasting plan will be implemented with all of the mitigation measures discussed above. The dredging equipment will then be brought back to the area to remove the fractured rock and the shoreline plug. All of this is routine and none of this activity is expected to affect the construction schedule or the agreed upon construction window.

The consistency of the Millennium Project with the CMP policies has also been confirmed in several respects by the order that the FERC issued on December 19, 2001, which approved the construction and operation of the Project under the Natural Gas

Act. With respect to the issue of need, for example, the FERC found that "the benefits of Millennium's proposed project are clear and significant", noting that "general market demand projections in the region lend support to the need for this project" and that the NYPSC had supported the project on the basis of its conviction that "the need for new pipeline capacity into New York City is critical because existing capacity is constrained." The FERC also held that the Millennium Project will "diversify the range of gas supplies available to the northeast", will "contribut[e] to lower and more stable natural gas prices," and will "increase the overall reliability of the region's infrastructure and offer an additional source of outage protection." Order at 29-30 & n.56. These significant findings demonstrate that the Millennium Project is entitled to "priority consideration" under the CZMA and the CMP as a major energy facility that will bring significant benefits to New York State and the Northeast. See CZMA Section 303(2)(D), 16 U.S.C. §1452(2)(D), affording "priority consideration" to major energy facilities.

In addition, the FERC's order confirmed the analysis presented in the FERC Staff's Environmental Impact Statement ("FEIS"). The FEIS includes an identification of the CMP policies and an extended discussion of the effects of the Millennium Project on those policies and the consistency of the Project with those policies. FEIS at p. 5-130 - p. 5-139.

We look forward to meeting with you and others at the DOS to discuss these issues in an effort to complete the Consistency Review process as soon as possible and we thank you for your continuing attention to this project.

Very truly yours,

Thomas S. West

TSW/pag/74165
Enclosures

cc: Frank P. Milano, First Deputy Secretary of State
James King, General Counsel
Millennium Pipeline Company, L.P.